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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR WEEK ENDING APRIL 15, 1922.
(Except as otherwise indicated.)

AKRON:

The spring has been very favorable for field work and at this time station work is in advance of its normal position. All spring seeding was done at the average date. The corn and fallow plats on the sheep rotations have been plowed and the corn plats packed. Yesterday the rotation corn plats were plowed and today they were packed. Ground plowed well, though there is some complaint among farmers about the hardness of their ground.

Soil where not worked is in an unusually loose and friable condition. Considerable soil blowing has occurred in eastern Colorado this spring and undoubtedly has injured winter wheat. Winter wheat on the station does not appear to be more than 10 per cent stand anywhere, not excluding the fallow ground. It is still felt that if moisture comes there may be as much as 50 per cent stand in most cases. January passed with .25 inch. February brought about .25 inch and March when rains usually come netted but .15 of an inch. Thus far in April there has been but a slight .20 inch.

The worst wind storm of the spring occurred last Saturday and Sunday when the wind maintained a 28 hour average of slightly better than 31 miles per hour. Some snow fell during this storm, estimated at about two inches, but under the high wind it was most thoroughly mixed with soil. The value of this snow to the wheat was nil, as the snow was to be found in drifts some of which were four feet in depth. Where the drifts have since melted there is anywhere from one half to three quarters of an inch of soil which was brought in with the snow.

Maximum temperature 68, minimum 13; precipitation .20 inch.

ARDMORE:

The fall and winter months were abnormally dry with unusually low temperatures. The total snow fall from October 1 to March 31, inclusive, was only 16.0 inches, and the precipitation for the same period 1.95 inches. The snow fall for the same months a year ago was 42 inches, and two years ago over 100 inches. Such a precipitation record at once gives the impression of an open or mild winter. The unusually low mean temperature, however, kept the ground covered with snow for several months. From December 15, for a period of about 80 days, the entire surface was covered with several inches of hard crusted snow, and no feed whatever was available on the range during this time.

There was only one bad storm, and that about the middle of December, consequently stock did not suffer greatly from the long period of cold weather. No losses were reported by cattlemen. There was an abundance of feed in the country and a shortage of cattle.

For the first time in the history of the station no precipitation was recorded during the month of March. The 10-year mean for the month is .71 inch. The total precipitation from April 1 to the 15, inclusive, has been 1.75 inches.

Brome grass started growth April 4 and is the only crop with the exception of winter wheat and winter rye that has made any growth. Native vegetation made its first appearance about April 10, notably nigger wool (Carex filifolia) and Western blue grass (Poa shedonii.)

Field operations started April 2. The surface few inches of soil contains plenty of moisture, but the subsoil is drier than usual for this season of the year, indicating that all crops must depend to a large extent upon the seasonal precipitation. Farmers generally have taken advantage of the period of good weather and the seeding of spring wheat in this section is about completed. The seeding of all field crops of small grain and the rotation plats was completed at the station on April 4. This was considerably earlier than the normal seeding date for this station.

During the week beginning April 3 the superintendent of the station, in company with the County Agent, made talks before 10 community clubs in Fall River county. An informal address also was given before the Rotary Club at Huron, South Dakota, on April 12.

BELLE FOURCHE:

The entire week has been cold and stormy. The temperature has been near the freezing point most of the time. No field work has been done since the last report, and indications are that it will be several days before field work can be resumed.

The precipitation for April to date is 2.50 inches, which is 1.00 inch above the average for the month.

Snow and cold weather during the past two weeks has caused considerable losses in live stock on the range. Owing to the exceptionally heavy winter snowfall, almost all live stock is in poor condition.

Maximum temperature 67, minimum 26; precipitation .53 inch.

BIG SPRING:

The past fall and winter has been very dry here, only about two inches of rain has fallen since last June. It was so dry that the winter wheat plats were not planted, and the fall plowing had to be left until this spring.

The long dry spell was broken March 25, when 1.05 inches of rain fell, and since that time about 2.5 inches has fallen. This put the soil in good shape for working. There have been very few high winds this spring, and only on two occasions did they develop into sand storms. Last Monday one of the worst storms of the year occurred, but little or no damage was done on the station.

All of the plowing has been done, and field one worked down. The April 15 date of planting of Milo, kafir, sumac, feterita, Sundan grass, Bishop's kafir, and cotton was made today. A very good seed bed was obtained, but the soil is yet very cold.

The fruit in the experimental orchard and vinyard has not as yet been damaged by frost. If no freezes occur in the future we have prospects of a pretty good fruit crop this season.

Maximum temperature 92, minimum 33; precipitation 0.

COLBY:

The chief item that has interested all wheat farmers in northwestern Kansas the past two weel has been whether the wheat has come through the winter with sufficiently vitality to be revived with the first moisture of consequence since it was sowed. The snow on the 18th of March gave this locality about one inch of moisture; this together with a snow on the 10th of April, which gave 1.30 inches of moisture makes most of the fields look like that a large percentage of the wheat came through with good vitality, but the stand is thinned in many fields. The prevailing opinion is that the condition of the wheat for the

county is about 75 per cent. The rain of 2.10 inches which fell the 18th of September gave this section of the state sufficient moisture to insure fall germination. There were a few fields, however, whidh did not come up to a good stand in the fall. But one plat on the station failed to make a good stand, 257B wheat after milo. Most of this plat germinated and some got through the ground. Now it apparently is going to thicken up to a fair stand. All the spring gains went into the ground in excellent shape and were just coming up when the snow of the 10th came. They are looking good following the blizzard of this week, which was by far the worst storm that we have had for several swasons.

Soil moisture samples taken MC-W. Wheat shows that there is no surplus moisture except in the surface two feet. The plat which is continuous stubbled-in has the most moisture of any plats so far sampled.

Several of the plats show that they were evidently dry in spots and that recovery of certain areas will be doubtful. This particularily true of commercial fields.

DICKINSON:

The past winter was the most severe for several years. It was characterized more by persistent cold than by extremely low temperatures. However, this was the coldest February since the station records have been kept. The snowfall was the heaviest for several years. Precipitation from September to March was 1.29 inches above the mean for the seven months. The snow melted gradually, with very little run-off. Moisture has penetrated about 15-18 inches on stubble land where the show did not drift.

Spring plowing for wheat, oats, and barley on the rotations was completed on the 15th. With fair weather these plats will be seeded early in the week. The first field work was done on the 12th when an increase field of Kota wheat was seeded on fall plowing. An increase block of a promising Kubanka selection was seeded on the 15th.

Over two hundred applications for Federal Seed Loans have been approved in this county todate. Checks are being received very promptly and this money is aiding some who otherwise would be unable to get seed this year. The indications are that almost the usual amount of wheat will be seeded.

Fifty acres of land has been leased from the Dickinson State Normal School for increase of grains. This land will be available as long as the station desires to use it.

Maximum temperature 67, minimum 26; precipitation .18 inch.

DALHART; report April 1:

Reviewing climatic conditions back to January 1, 1922, we have the following; for January, the first half of the month was generally mild with only .32 inch precipitation. The soil was very dry due to the continued drought dating back to August 1921. On the 18 and 19 the temperature dropped to 2° below. None of the small grain crops have germinated to date, planting made in October. For February, heavy winds prevailed from the 6th to the 14th. On the 14th a light snow occurred. On the 21st a rain occurred which totaled .48 inch. This rain came in a down pour and there was considerable run-off, although enough moisture was retained by the soil to do considerable good. At the end of the month a snow fell during a hard blizzard and due to the heavy wind the snow drifted badly. Some plats were bare, while others were piled high with snow. The nearest measurement obtained was about eight inches. Some drifts were from four to five feet deep. Form March, the temperature was low and accompanied with heavy winds. The minimum temperature for the winter was recorded on the morning of the 2nd, registering 10 degrees below. On the 4th and 5th, heavy west winds caused some

soil blowing, while the fields were too wet to cultivate. No damage resulted from soil blowing on the station. On the night of the 8th the wind came up from the northwest and shortly snow began to fly. This was the beginning of another blizzard, which raged all day the 9th and caused the snow to drift badly. The total amount of this snow was 2 inches. On the 13th and 14th a slow shower fell, netting .50 inch. With this amount of moisture falling when it did, the soil was in good condition for spring operations. The winter rye and wheat began to germinate. Oats was sowed on the 17th and were up to a good stand on the 1st of April.

During the week ending April 1 there were considerable indications of rains. The wind blow considerable at times during the week but only for short intervals. No soil blowing has occurred since the first of March, as the fields were cultivated as soon as conditions would permit.

About 2,000 trees, elm and maulberry seedlings, that were grown on the station were given away to farmers during March. A few trees are still on hand but stragglers are coming after them occasionally. Some are being planted around country schools.

DALHART; report April 8.

This week has been accompanied by considerable wind. There was a very good rain on Sunday night, April 3, which netted 1.85 inches. The two days following were cloudy and damp resulting in .02 inch each. As a result of the large rain the fields were too wet to do any field work most of the week. Before the soil was dry enough to cultivate there was some soil blowing in the south field, but not to any extent. The fields were all left in a good condition to blow.

Thursday the cultivators were started and most of the fields covered to check blowing. The disc was started Friday on the field that will be devoted to the Cereal and Forage work this year. This was to loosen the soil in order to kill the small week growth, cut the stalks that were left standing over winter and to leave the field in a rougher condition to witnstand blowing. This left the field in a good condition to retain moisture and to check blowing. All the winter rye plats were harrowed to break the crust in an effort to stimulate the rye growth. It seems as if the rye will never get through germinating. The stands to date are not very good but there is a possibility of its being improved. However, it is too late to do any replanting. The oats are coming along in good shape. One series in the south field has an excellent stand of sweet clover, just germinated. This series has been devoted to clover for several years, but has been also planted to small grain in the spring until this year. The sweet clover seems to be gaining favor in this section as a pasture crop and this series affords a very good showing in habit of growth. The clover seems spreading along the roadways where it has to compete with grass but it is not taking up in the cultivated fields.

Considerable repair work has been done on the mess house during the past week. There is still considerable work to be done on it, but may have to be postponed until later, if the weather clears so outside work can be done.

Maximum temperature 74, minimum 33; precipitation 1.89 inches.

DALHART:

April seems to be making quite a record for wind velocity. It seems as if the March winds were delayed and were started a month late. The first of the week was one of the worst days of the season. A heavy norwest wind prevailed from early morning until about 7.30 or 8.00 p.m., when it quited down until there was very little breeze stirring. During the forenoon Monday there was a trace of snow and sleet fell with the wind. Tuesday was fairly quiet and was

reasonably warm during the afternoon. Wednesday again was a beast of a day. The teams were in the field all day cultivating. The cultivating was all finished Thursday, so that all fields were safe for another blow. About 5.00 a.m. Friday a sudden shower accompanied by hail occurred in a heavy wind. This lasted for only a little while so that only .02 inch precipitation was recorded. A much heavier rain and hail occurred northeast of Dalhart.

The spring small grain crops, especially the oats are making pretty good headway. Rye seems to be making fair progress on some plats, while others have a rather poor showing for stand. There was considerable improvementtin the stands of rye on the plats this week over last week, as there has been more germination. Some ranchmen around Dalhart are still planting spring wheat.

Two plats in the listing methods were listed during the week and the G plats of continuous kafir, milo, and corn were disced. The spring plowed plats will be plowed the first of the week if weather conditions will permit. Field work during the rest of the week was devoted to cultivating to keep and prevent soil blowing. The soil blowing here has been held pretty well in check, so that no damage has resulted and no drifting of sand. Plowing on the Cereal and Forage block will be started as soon as the spring plowed rotations are finished. The M.C.A. plats will not be plowed at this time.

Some necessary repair work has been done in the mess house during the week. The wood work was gone over and refinished, so that it looks a little more habitable. There is considerable repair work to be done on it yet, but this will not be done this year.

HAVRE:

Weather conditions have been more severe than usual during the past winter. The minimum temperature was not unusually low, being minus 28 on February 24. Usually there is one or two chinook periods during the winter but this was not the case during this year. The first real cold weather was November 19 to 24. It was much milder until about December 15. During the last half of December there were 11 days with a minimum below freezing, for January there were 14, and February 23. About March 1, temperatures began registering higher, but there were no real chinooks during March.

The general opinion is that the snallfall was heavy. The records do not show that the precipitation was unusually heavy. Owing to the fact that there were no warm periods the snow laid on the ground and accumulated during the winter, giving the impression that the snowfall was deep. Snow drifted badly during the winter.

There have been several spring snow storms during April, with the result that the ground in stubble fields is too wet for plowing. The average date of spring plowing for the past five years at this station is April 13. At best we will not be in the working before the 20th. Although no moisture samples have been taken, it seems very apparent that the soil is wet to a greater depth than ordinarily at this time of the year.

Alfalfa seems to have withstood the winter very well, but a large part of the winter wheat is dead. It looks now as though the most of the plats on fall plowing, green manure, and corn land will be so thin than reseeding will be necessary.

Dr. W. C. Cook, who was at the station last season working on Pale Western cut worm, completed his doctors degree at the University of Minnesota during the winter and returned to the station April 1. Blaine Ferguson State Irrigation Specialist with headquarters at Havre is living at the station this season, as well as L. A. Cambell, county agent for Hill county.

HAYS; report for April 1:

The past winter was comparatively mild in this part of the country. There

were not many days of extreme cold and very few blizzards. It has been an easy winter for livestock, which had no shelter.

The month of March was generally warm with only a few frosts and light freezes to break the monotony. Birds are numerous and apparently happy singing their spring songs. Peach, apricot, and some shrubs are in full bloom. A thick stand of weeds are appearing every where. Native pasture is beginning to show a little green. The alfalfa fields have developed sufficient growth to give the fields a very green appearance. Brome grass would now made good pasture. It, therefore, appears that spring has arrived.

Although the fall and winter continued very dry until February, since then precipitation has been normal, the top soil is in "super fine" condition for field work, including preparation for, and seeding of the spring grains.

Spring wheat, oats, and peas were seeded March 22, and barley and brome grass were seeded the following day. All seed was put in fine moist soil and germination should be very good.

Although the soil condition in the fall was in ideal condition for soil blowing under normal climatic conditions there was less movement of soil by blowing than there has been for several years. The principal reason for "its (the soil) staying at home" was largely because there was no wind to speak of and the absence of moisture which prevented the freezing and thawing from breaking down the soil into the usual fine condition. Most of the large clods turned up by late fall plowing remained in the original rough and hard condition until the rains in March softened them so the harrow pulverizes them in fine condition.

The prospects for a crop of winter wheat in this locality is generally very poor. There was about the usual amount of wheat seeded in the fall, but not over 25 per cent of it came up until recently. Except for a small patch here and there 75 per cent or more of it came up during the last two weeks. On many fields all of the stand present immerged within the last two weeks. The big question now is Can it make wheat.

The exception to the above is an occasional field where from 24 to 40 per cent came up late in the fall or early winter and survived. There are other fields where the seeding was done early, germinated and perished. In some of the fields where there is 20 per cent to 40 per cent winter stand, there is sufficient of the two weeks old stand to make a 75 to 90 per cent stand. In many cases there is appearing on the scene a 90 per cent stand of weeds. And it looks like the contest may soon be on for supremacy. In most cases I am guessing on the weeds.

We are told by men travelling through the country that the prospects are just as bad north to the state line. It also extends for some distance west, south, and east, but is more patchy in these directions, there being within the desert small areas where they were favored by a sufficient amount of moisture in the fall to start the wheat.

Fortunately the Dry Land Project presents for the good of the cause about 30 plats of good looking wheat, heaving from a 50 to 85 per cent stand which came through the winter and is now responding to the favorable conditions with a good growth. The project has been paid the flattering compliment of showing the best patch of wheat in the country. Some enthusiastic individuals are saying chances are there for 40 bushel yields. However, it is quite a while yet before harvest, and many things could happen.

It would not be fair to stop without saying the project also presents some plats which are entirely without a plant which came in the fall or winter. For instance, on the corn and kafir stubble plats, or late fall plowed plats, not a grain germinated until within the last two or three weeks. But these plats now show a full 90 per cent stand of wheat that would be looked upon as superfine about October 10, and this represents the condition of hundreds of acres in this locality. The Experiment Station possess a considerable amount of this kind, and it is at this writing sowing most of the ground in barley or preparing for other crops.

Hays, continued:

The distribution of precipitation over this section is starting out about as freakish this spring as it was last season. Some parts of the state are having floods. This locality seems to be getting what is left. Within the last few days heavy rains have been reported west, south, and east. A few days ago good rains have been reported as occurring north of here, but Hays was left high and dry. However, this locality is not suffering at this time. The top soil is still moist and in very fine condition for work to the depth of from 6 to 14 inches.

HAYS; report for April 8:

The first three days were cloudy and threatening and a few sprinkels of rain occurred, just enough to stop drills from running, but not enough to more than wet the first two inches of soil. Clouds have reappeared today but without rain. During the early part of the week good rains were reported a few miles north, west and east. However, with mild or spring temperatures and without any frost, and with the first few inches of top soil moist, conditions have been very favorable for plant growth.

Winter wheat in its various stages is making considerable growth. Spring wheat, oats, and barley seeded recently are coming up nicely, but are not yet up to a good stand.

The spring plowing for corn and the sorghums on the project was done yesterday and today. Also plowing of shelterbelts was commenced. Grading of drain ditches was commenced and the most necessary part of this work was finished.

The field laboratory which had been closed all winter was cleaned out and two rooms painted. Soil sampling was commenced and sixteen plats sampled. Soil thermometers were planted in three plats of winter wheat, showing a difference in growth. These are the strawed and manured plats. For the first time since the manure experiments have been running, the plats receiving the top dressing of manure in the winter seem to have considerable advantage over the checks. The wheat started this spring with more rapid growth than the checks and at the present writing there is considerable difference in appearance in favor of the manured plats. The strawed plats also look better than the check but not as good as the manured plats.

The climatic instruments were cleaned and set running last week.

The Experiment Station is now busy seeding some of the winter wheat fields to barley. Also during the week three cars of alfalfa hay was baled and shipped to market.

HAYS:

During the week there was considerable variation in the weather. Some very warm days, and some very cool nights, some cloudy and threatening days, and some very bright. There was but little wind except for one day and that is today, which is one of the windiest and dirtiest days of the season. However, as a whole, the weather has been quite favorable for work and for plant growth. All spring seeded grains are looking good, and also the winter wheat which came through the winter with a stand. That which did not germinate until the latter part of March is not making much advance at this time. It seems to be marking time while the weeds step forward.

Work on the project consisted largely in soil sampling, trimming of plats, and plowing of shelterbelts for sorghums.

The work on the commercial fields has consisted largely in sowing barley and have commenced discing fields which are to be seeded to sorghums.

HUNTLEY; report for April 8:

The past winter was characterized by an unusual amount of snowfall, the ground being cover most of the time between November 15 and March 15. From the first of November to the first of April a total of 4.87 inches of precipitation, practically all in the form of snow, was received. This is 1.57 inches above normal for the period.

The last two weeks of January and February were comparatively cold. Though the minimum temperatures recorded were not unusual, the cold spells were somewhat longer than is ordinarily experienced here. The minimum temperature for the winter was 33 degrees below zero on February 28. Cold, snow, and lack of feed were responsible for a rather high percentage of loss among range cattle; one stockman in this locality losing 29 out of a herd of 150 head.

Winter wheat and rye, in most cases, did not sprout until the last of March, and to date, none has come through the ground. Indications are that the seed is still in good condition; noe of it having rotted as was the case last year.

Rain and snow to the amount of 1.40 inches of precipitation fell in a period of about 24 hours, April 5. This is .38 inch more than the normal for the month. As another shower is in progress today, we are sure of at least one month of this season being above normal in precipitation.

Maximum temperature 70, minimum 25; precipitation 1.40 inches.

HUNTLEY:

Colder weather with an abundance of precipitation, principally snow, did not permit beginning work in the field this past week. Unless we have an unusual amount of warm windy weather during the next few days it is doubtfull if field work will be possible much before the end of the month.

Winter wheat appears to be in about the same condition that it was two weeks ago. It is well sprouted and, in a few fields, is coming through the surface. The weather has been too cold to promote much growth. Weeds, on the other hand, especially Russian thistles, are well started and it is probable that the first cultural operations of the season will have to be along the lines of weed control.

Maximum temperature 55, minimum 4; precipitation .82 inch.

LAWTON:

Winter temperatures were mild and precipitation was far below normal. Farm work opened up very slowly and most farmers were seriously handicapped by the lack of stock water, a condition which has existed since last spring.

Abandonment of wheat acreage throughout the county has been very heavy. Only a very small per cent of the crop that remains has not been stunted by dry weather. In most cases the growth is very small for this time of the year. The present indications are that the acreage is about 50 per cent below normal and that there is a chance for about 25 per cent of a normal crop.

The oats acreage is probably somewhere near normal. The lack of subsoil moisture, however, subjects the yield of this crop as well as all spring crops to the seasonal precipitation up to harvest time.

The total precipitation for January amounted to .89 inch which is .15 inch below normal. Considerable cloudy and sometimes foggy weather during the month was helpful to the wheat that was barley able to live. The mean temperature for the month was normal. The lowest temperature for the month was 13 degrees while 71 degrees was the highest temperature recorded.

February was characterized by extreme ranges in temperatures. A maximum of 82 and 83 were recorded, while the minimum for the month was 11. The mean temperature was 1.7 degrees above normal and the wind velocity averaged 2.5

miles per hour above normal for the month.

The most severe storm of the season occurred from the 26 to the 28. Sleet and snow driven by high winds was destructive to property as well as livestock. Probably not over three inches of snow fell but it was badly drifted. Practically no snow remained on the wheat fields, but a little was caught whereever stubble remained.

Wheat made but little improvement during the month. The root systems were shallow and the plants were small and spindlying. Considerable oats were seeded during the month, especially on abandoned wheat fields where a little surface moisture existed.

Precipitation for the month amounted to 0.49 inch, which is 0.78 inch below normal. All farm operations advanced slowly with indications for a rather late season.

The first fourteen days of March were cold when the mean temperature was 8.9 degrees below normal. The wind velocity exceeded the normal during this period by 1.4 miles per hour.- Precipitation in the form of three showers amounted to 0.36 inch. On the fourteenth of the month the wind velocity equaled 21.9 miles per hour, from 8.00 a.m. to 5.30 p.m. On the eighteenth the record was exceeded by .9 mile per hour.

Vegetative growth during the month was very slow and late. Weeds and grass first appeared about the 20th.

Spring plowing in the general fields was not very satisfactory. There was but little moisture in the surface, although the ground had been double disced in the fall. The clods were hard and a seed bed was prepared with difficulty and at the expense of extra labor. The growth of wheat on the station is not yet sufficient to cover the ground.

Precipitation for the month amounted to 0.97 inch which was 0.65 below normal. The deficiency in rainfall from July 1921 to April 1, 1922 was 10.89 inches. The minimum temperature for the winter was recorded on March 1, when the thermometer dropped to 8 degrees. Maximum for the month 82 degrees.

April brought relief in the form of moisture, when 3.52 inches fell from the 3 to the 9. The ground was pretty well soaked up to a depth of one or one and one half feet, and some stock water resulted toward the last.

The largest rain since last June fell on the morning of the 8, amounting to 1.88 inches; this rain was accompanied by a very destructive storm in which much property and several lives were lost in Lawton. The station was east of the main path of the storm and suffered but little damage.

Moisture which has fallen during this month has made it possible to prepare a good seed bed for 11 spring crops. Corn which was planted on April 1 resulted in a good stand by the 12. A small amount was washed out and some patching was necessary. Oats seeded on the 7th of March showed a good stand on the 20. Alfalfa is making fair growth and fairly good stands of both alfalfa and sweet clover were caught where spring seeding was necessary.

The present indications are that the cotton acreage will be above normal. It is now the only chance for a cash crop this year. By reason of the heavy boll weevil infestation which existed here last year, it is quite likely that planting will be done as early as possible. Station plantings will be made about the normal time. Climatic conditions throughout the winter have been very favorable to the boll weevil for another year.

Chinch bugs have been quite numerous in the wheat plats since the first of April.

About 2,000 pounds of grain and forage sorghum seeds have been distributed throughout the county this spring. The seed was pure in each case and a great deal of it had been head selected.

MANDAN:

Agronomy.

The past winter was not one of extreme coldness from the standpoint of low temperatures. The lowest temperature recorded was -33 degrees on January 22, and was the only time during the winter that it reached 30 degrees or more below zero. However, February was continued cold with only four days that the minimum temperature was not zero or below. The mean temperature for the State during January was slightly above normal, while for February it was 7 degrees below normal, and nearly 20 degrees less than during February 1921.

The past winter was very hard on stock in this section, mostly because of feed shortage. Many carloads of hay were shipped into Mandan during the winter, and it is still being hauled out by farmers to furnish feed for spring work.

The snowfall for the winter was greater than for some years past. The average precipitation for the State during January was slightly below the average, but during February it was about 0.75 inches above normal and slightly below during March. The total precipitation for Mandan to April 1 is 2.35 inches, or about 0.50 inches above the 45-year mean.

The soil contains plenty of moisture to aid in spring work, and to start all small grain crops. However, as during the past six years, the crops will soon be dependent upon the current rainfall.

The past week has been cloudy and cool, and the soil has dried slowly. Plowing started on the rotations on April 10, and has been completed. Discing and harrowing of the plats in the main field will be practically completed today. The south field is still too wet to work well. The ground in both fields is cold and is warming up slowly. Very little seeding of wheat has been done in this section to date.

Burning of Russian thistles has been in progress most of the week on some of the larger fields that were seeded to brome and alfalfa last year. There has not been much wind during the week and the thistles have not burned to the best advantage.

Winter wheat again killed out on all plats. It also killed out in the south field where a number of varieties were planted by the Office of Cereal Investigations.

Alfalfa, brome, and Siberian wheat grass (Agropyron cristatum) have all made a start. Alfalfa is growing slowly. Brome and the wheat grass had started by April 1. The wheat grass is some days ahead of the brome and would be ready to pasture in a few days.

Cooperative Grazing Experiment.

The native vegetation is, in many cases, starting earlier this year than during any year since the experiment started. Artemisia frigida was the first thing to start and has already made some growth in the 30-acre pasture.

The North Dakota Agricultural College has 60 head of two year old steers for the grazing experiment this year. They have been wintered at Solon, North Dakota, and will be delivered at the pasture early in May.

Arboriculture.

Preparations have been completed for shipping tree stock to farmers beginning Monday the 17th. This season there will be 550 shipments against last year's 406.

The conifers, jack pine, and Black Hills spruce, that were dug last fall and heeled in over winter, came through with no injury whatever. The year before they were left in the field until spring with the consequent loss of all the jack pines by burning during March. The Black Hills spruce transplats in the field of last spring's plantings are considerably burnt at this time, and the loss will likely be quite heavy.

Mandan, continued:

Mr. F. R. Johnson, of the Forest Service, was here from March 25 to April 5. Forest Service Bulletin No.888 has been withdrawn, and a new bulletin, including the entire Great Plains is being written, in collaboration with this office, on the growing of trees.

NORTH PLATTE:

The winter at this station was dry and open. There was but little snow and the fields have been bare almost the entire season. Total precipitation for the five months from November 1 to April 1 was only 1.36 inches, while the normal for these months is 2.61 inches. This deficit added to that of last year has left the soil very dry.

Field work was begun on March 15 and has been practically continuous since. Seeding of spring grains on the DLA plats was done March 22-24. Plants are beginning to emerge at this writing, where there is sufficient moisture. Some plats are too dry for germination to take place.

The condition of winter wheat has declined at least 20 per cent since March 1, and unless moisture comes very soon much of the crop will be lost.

NORTH PLATTE:

Dry weather continues. A storm Monday furnished sufficient precipitation, mostly in the form of snow, to raise the evaporation tanks .12 inch. The wind was so strong that no moisture was caught in the rain gauges. Fortunately the slight amount of moisture which fell came early in the day so that the injury from soil blowing was slight. Further east in the state the snow was heavier and immense damage was done to telegraph and telephone wires and poles.

Spring grain seeded March 22-23 is about two-thirds emerged. Winter wheat continues to decline. Moisture is very badly needed.

Visitors during the week included Professor E.C.Chilcott, and W.W.Burr.

TUCUMCARI:

Weather conditions have been favorable for field work the past week; although moisture determinations made on the M.C. milo plats show an average moisture content of only about 5 per cent on the A, B, and D plats and about 8.5 per cent in the C plat. The ground plows well and about 18 acres has been plowed this week in the south field. The Sudan rows have been mowed and the milo plats cut with a stalk cutter this week, previous to plowing.

The peach and Florence crabapple trees are in full bloom, while a few of the other orchard trees are beginning to leaf, locusts, poplars, willows, and the hedges are also leafing. About 2,000 locuts sprouts have been secured from the station this spring for planting in the surrounding country, while a number of willows and poplars from the nursery have also been given away.

All M.C. winter wheat and winter rye plats killed out this winter, due primarily to the extended drought. Kubanka spring wheat was seeded on these plats on March 22 and a good stand was noted April 8.

The only precipitation worthy of note received since last September occurred on March 9, when about a foot of snow fell, amounting to 1.10 inch precipitation.

Precipitation Received Since August, Compared with mean.

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Total	April
Mean	1.55	1.28	0.80	0.71	0.45	0.58	0.70	6.07	1.68
Received	0.75	0.21	0.00	0.00	0.13	0.13	1.37	2.59	.27 (to date)

Tucumcari, continued:

Wind velocity this spring has been somewhat lower than usual. During the middle of March some blowing occurred in the north field, but this was entirely checked by listing. No blowing has occurred in the south field, while it has not been serious in the center field, although it occurred to a limited extent.

Wind Velocity during Winter and Spring (Miles per Hour.)

	Jan.	Feb.	Mar.	Apr.
Mean	4.6	6.9	7.9	7.9
1922	4.3	6.7	6.3	7.9 (to date)

Records for past week: -- Maximum temperature 80, on the 13; minimum 30, on the 11, the lowest temperature recorded since March 28. Evaporation 2.499 inches; precipitation 0; average wind velocity 9.8 miles per hour.

WOODWARD:

From early in September 1921 until about the 10th of January 1922 we only had about .25 inch of rainfall, consequently winter wheat and rye all over this section got a very poor start, some of it not emerging until after the rains in January. Most of the winter was rather mild with about 8 inches of snow with a minimum temperature of 3 degrees below, which was the coldest recorded during the winter. Judging by the date of blooming of fruit this spring it was about three weeks to a month later than last. The cold weather early in March apparently killed about 20 to 90 per cent of the peach buds according to variety. The Elbertas were hurt more than any other variety. Outside of this and one or two other varieties which are not common to this section there are enough buds which were not frozen to make a good crop of peaches if we have no freezing weather from now on. Practically all of the peaches and most of the plums have bloomed, and the cherries are just starting to bloom. We had the worst wind storm of the season on the 10th. The wind velocity was estimated at 25 miles per hour for the 24 hours but the anenometer went out of commission so that we did not get an accurate record.

Work during the past week consisted of cultivating to control blowing, plowing for spring crop, filling in vacancies in the vineyard, and doing considerable fencing on the dairy farm and planting one plat of peanuts.

Maximum temperature 82, minimum 35; evaporation 2.648 inches; precipitation .10 inch.

NOTE: Professor E. C. Chilcott left Washington, D.C., the evening of April 10, 1922, on a trip of inspection to Field Stations in the Great Plains.

SPERIDAN:

The only field work possible so far this spring has been the seeding of some sweet clover broadcast in the stubble and the seeding of the April 1 date of seeding with spring wheat.

Late in the fall, the ground was exceptionally dry as deep as sampled. None of the grain seeded on the station in the fall emerged, or apparently even germinated. There was a heavy fall of snow in November, before the ground froze, and all of it melted and ran into the ground where it fell. There was a fair amount of snow during the winter, and although it drifted badly in most places, the fields seemed to be fairly well covered. Although the winter was the coldest on record at the local weather bureau, the ground apparently was frozen but little underneath the snow, and there was but little run-off as the snow melted this spring.

The rotation field was about dry enough by the 4th of this month, that without further moisture field work would have been possible the next day. Soil samples were taken at that time, and the moisture was found to a depth of about a foot, it being about as dry as practicable below that depth.

On the evening of the 4th, rain began and about .6 inch of moisture had fallen by morning, with practically no run-off. Turning to snow during the day, the storm continued for nearly two days, with a total precipitation of about 2 inches. There has been sufficient snow since to bring the total precipitation for the month to date to about 2.5 inches, nearly .9 inch above the normal for the entire month. Practically all of this has gone into the ground where it fell, as melting has been very slow.

The mean temperature for the first five days of April was slightly above the average for that period since 1917. For the last ten days, however, the mean temperature has averaged about 8 degrees colder than the average, and 3 degrees colder than for the same period during any of that time.

The ground is very wet at present and it is difficult to tell when field work will be possible. Work so far during the month has consisted principally in digging post holes for fencing, hauling shale and gravel for the drive lead-out the main road, hauling manure from around the buildings and from the corral, and getting the machinery ready for spring work.

Maximum temperature 54, minimum 20.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

APR 3 1922

REPORT FOR WEEK ENDING APRIL 22,1922.

AKRON:

All the spring sown small grains on the station are up to good uniform stands. The wheat and the barley are high enough to give the plats a green appearance. Oats emerged at a later date and are not so vigorous. Peas are just beginning to break the ground. Winter wheat on the rotation plats gives no greater promise of yield than was reported last week. The best prospect fow winter wheat appears to be on the Cereal Project. Wheat on this project is sown both on fallow and on disced corn ground. There appears no very logical reason for the wheat on the project being better unless it be that wheat here was less injured by rabbits which were noticed working heavily on the rotation plats last fall.

Precipitation in the nature of snow fell last Monday, totalling .30 inch. Thus far there has been .50 inch in April, following .15 inch in March, and .25 inch in both January and February.

Some early seeding was done on the forage variety experimental block the first part of the week. Alfalfa and sweet clover varieties were seeded the last of last week. Strengthening and rearranging fencing about the station grounds has occupied most of the time the past week.

Maximum temperature 73, minimum 21.

ARCHER:

During the first part of the week we received considerable snow with very cool weather following. The last two days have been the warmest during this year.

The work during the early part of the week consisted of seed selection of corn and sunflowers. The last two days have been devoted to field operations and machinery repair. The Dry-land plats are being prepared for spring seeding.

Due to the lack of funds there will be no spring seeding of the cereal and forage plats. The areas formerly seeded to these crops will be seeded to increase Acme wheat, Ligowo oats, and Horn barley. The demand for these crops among the farmers has been great this spring. The State officials are making a special effort to distribute this seed among the farmers of the State.

There is unusual increased farm activity in this part of the State this spring. A large acreage of oats, wheat, and corn will be seeded this season. Weather conditions have been quite favorable for field work.

Climatic data: maximum temperature 66, minimum 16; precipitation .31 inch; highest hourly wind velocity 32 miles per hour.

ARDMORE:

The greater part of the week was favorable for the prosecution of farming operations, although work was temporarily stopped on the 19th by a snow and rain storm which was of no consequence from the standpoint of the production of moisture. The precipitation for the week amounted to .08 inch, and the total precipitation for the month of April has been less than 2 inches. The maximum temperature for the week was 75 and the minimum 22.

Rotation plats and field crops of wheat, oats, and barley are up, and making a good growth. Winter wheat and winter rye came through the winter in excellent condition, and have made much better growth than normal for the season.

Ardmore, continued:

Alfalfa and brome grass are both several inches high. The latter crop would furnish considerable pasture even at this early date. It will be some time before native pasture will make sufficient growth to provide much grazing. Buffalo grass and Blue grass have just started to grow.

Thistles and other weeds were burned in a 30 acre alfalfa field, and in the five acre pastures of sweet clover, brome, and wheat. It was necessary to rake the weeds in rows before they would burn.

During the week the cultivated pastures of brome, sweet clover, and Siberian wheat grass were reseeded. A partial stand was secured last year, and the pastures may furnish some feed this year. Each of these pastures contains five acres and they are to be used in a grazing experiment with dairy cattle in comparison with native pasture. Unusual difficulty has been experience in securing a stand in these pastures which have been seeded every year for the past three years.

Corn rotation plats were plowed during the week, and fields which were fall-plowed and are to be used for the production of corn and cane were drag-harrowed.

BIG SPRINGS:

Weather conditions this week have remained moderate and dry with very little wind movement. The surface soil has dried out considerably during the past week.

Many of the farmers have been planting feed crops during the past week, and some cotton has also been planted. The soil has remained so cold that no planting other than the date work has been done on the station.

The work for the week has consisted of discing the north fields, and in cultivating and hoeing the vineyard.

The cherries, plums, and grapes are getting in fine shape and give promise of a fine crop, if a late freeze does not get them. Some of the varieties of peaches are well fruited, while some of the others have only a small amount of fruit on them

Maximum temperature 92, minimum 34; precipitation 0, evaporation 1943 inches.

COLBY:

Growing weather has been fine for all crops during the past week. All fallow plats of winter wheat are covering the ground. The late fall-plowed plats and the early fall-plowed plats, while looking good, are not as far advanced as the fallow plats. The spring wheat plats, together with the oats and barley plats, are showing a very good stand, very much better than last year.

Work during the week included hoeing of all alleys in the DLA project and trimming the plats along the alleys. The bindweed patches were plowed the latter part of the week. The bindweed was just beginning to appear in a few of the areas. The plan is to give these areas clean cultivation in an endeavor to starve out the root system of this pest; it will apparently take several seasons to do this and we hope that our efforts will be the means of eradicating this pest.

Soil that was worked during the week shows ample moisture in the surface foot at the present time. Soil sampling was continued on M5-winter wheat and on the three winter wheat plats of Rotation 574, as well as on the continuous stubbled-in winter wheat. The latter plat continues to show by far the largest amount of soil moisture of any plats sampled.

Colby, continued:

The first of the fruit trees to bloom is the apricot, which started to bloom on the 20th. The orchard has been double-disced twice this spring.

DALHART:

Weather for the week has been very good except one blustery day (Monday) and a light freeze Tuesday night; minimum temperature 28.

Range conditions are improving rapidly. Since the rain of the 3rd and 4th and the warm days that we are having now, the grass has started and is making good growth.

The spring-plowed rotations were plowed the first of the week, and plowing was started on the Cereal block Friday and is now going ahead steadily. Soil is working very fine.

A new corrall fence was started this week to take the place of the old one that was built when the station was new and badly needed replacing.

Some necessary repair and construction work was started on the defective septic tank at the Superintendent's residence. This will be finished next week.

DICKINSON:

A light snow during the first part of the week was followed by a hard freeze. Following the snow the soil was too wet to work for a couple of days but field work was resumed during the latter part of the week. Wheat and barley was seeded on the Rotations on the 20th, oats on the 21st, and wheat varieties for the Cereal Office on the 22nd. An increase block of Victory oats was also seeded on the 22nd.

Maximum temperature 70, minimum 13; precipitation .51 inch.

HAVRE:

The first three days of the week were cold with temperatures below freezing each day. The last three have been warm with temperatures normal or above. The minimum temperature of 24 degrees was recorded on the 19th with a maximum of 76 on the 21st. There has been only a trace of precipitation.

Plowing for small grains was completed during the week and the most of the cultivation is now completed. Unless weather conditions prevent, the drill will be started the first of the coming week.

Many farmers in the community have started seeding wheat and oats. the most of this is seeded without previous spring cultivation. Reports from farmers show that winter wheat has survived the winter very well where seeded in stubble. The past few days have apparently brought some of the winter wheat plats to life. Plants that seemed to be dead a week ago now show some sign of growth. At best the stands will be thin. Winter rye is making a very good start.

HAYS:

Generally the weather has been warm and dry.

Crop conditions remains practically the same as reported last week. It has been noted over the country a few more wheat fields are being seeded to barley. Farmers have been pretty slow to give up prospects, or what they thought were prospects of a wheat crop.

Hays, continued:

Work on the project during the week has consisted largely in soil sampling, continuation of trimming of plats, cleaning out of roads, plowing of shelterbelts.

To indicate the stage of advancement of spring it might be stated that pear trees are now out in full bloom. The bloom of red bud is just beginning to break out. The mass of native timber along the creek is about one-fourth out in leaf. Alfalfa on bottom land is about six inches high.

Maximum temperature 83, minimum 33; precipitation .30 inches on the 17th.

HUNTLEY:

Warm, windy weather during the last half of the week has done much toward drying off the ground and on the lighter soils in this locality farming operations are under way. Winter wheat and rye have responded well to the favorable growing conditions and on most of the plats a fairly good stand is in sight. Volunteer spring grains have also put in an appearance and the stubble is quite green in place.

The only field work done during the week was fence repairing and some cleaning up on the plats.

Maximum temperature 75, minimum 20; precipitation .09 inch.

JUDITH BASIN:

The past winter has been exceptionally long and severe and a large amount of snow was received. The usual warm winds were not received during the latter part of the winter and the snow melted very gradually, permitting the soil to absorb most of the moisture. Alternate freezing and thawing weather with an average of about three snow storms a week has prevailed during the last month. Snow fell the first part of this week but was followed by several clear warm days and work in the field was finally commenced on Friday.

Winter wheat and rye have apparently survived in good condition, but the alternate freezing and thawing weather of the past few weeks has done some damage to these crops. At the time of the present writing it is difficult to determine the extent of injury to winter wheat on the rotations in this respect. A fair stand of winter wheat will be obtained on the stubbled in commercial field on which the wheat appeared to be entirely killed out last fall by the exceptionally dry weather during September, October, and November.

Maximum temperature 70, minimum 22; precipitation .06 inch.

LAWTON:

The past week has been very favorable for progress of farm work of all kinds. Wheat and alfalfa have made some growth, as well as native grass. Fruit prospects up to the present time are good.

Spring plowing was completed during the week and a good seed bed has been prepared on all such land. All wheat block plats were trapped with cane strips on Friday. The first date of seeding tests including broom corn, sumac, Sudan, three varieties of kafir and one of milo was made on the 17th.

Weather conditions have been about normal during the week. The minimum temperature recorded was 34 on the 19th and the maximum 83 occurred on the 17th. A heavy frost was noted on the morning of the 19th but no

damage of importance has been reported. Growth of alfalfa was somewhat checked on some of the low lands. A light rain of 0.39 inch fell on the night of the 22nd.

MANDAN:

Horticulture.

In spite of the low temperatures that prevailed during the past winter, winter injury to older plum and apple trees appears to be light. However, some of the young trees, planted last spring, failed to survive. In general, it now appears that the amount of winter injury recorded will not be nearly as great as in some previous years.

A fairly good set of fruit was obtained from the hand crossing work in the greenhouse, but some trouble was encountered through fruit dropping. A number of cherry crosses with the native Western sandcherry are now ripening.

Planting trees in the variety testing, the plant breeding, and the cultural treatment blocks, has been in progress through the week, and the greater part of the spring planting has now been done.

Tomatoes, cabbage and cauliflower plats, have been set out in the hot beds, and planting in the garden has been started. The grounds have also been raked and groomed during the week.

Other work included grafting, painting stakes and removing mulch from the seed beds.

Agronomy.

The first part of the week continued cold with the soil drying out very slowly. A light snow on Monday, followed by low temperatures delayed field work to some extent. The weather during the latter part of the week has been almost ideal for all kinds of field operations.

Seeding of wheat plats in both main and south fields was finished in seven hours on April 20. With a total of 77 plats this would make an average of 11 plats per hour. Seeding of oats in the plats will be finished today.

Considerable time has been spent again in burning thistles in feed fields. Owing to scattering patches being blown out it has been necessary to follow up with a rake in order to get every thing.

Flax in the continuous -cropping series has been discontinued, and spring wheat put on the plats. These will be a duplicate of the continuous cropping of wheat, except that "A" is plowed to the same depth as "B." Alfalfa and brome grass have made slow progress during the week.

The Office of Cereal Investigations seeded their wheat and oat varieties on April 21.

Seeding is reported to be from 10 days to two weeks late over the State. The nine-year average date of wheat seeding at this station has been April 19.

Corn germination tests are in progress.

Cooperative Grazing Experiment.

The native vegetation has made but little growth during the past week. The two species of Carex have made the most growth to date. Artemisia frigida is making rapid growth in the 30-acre pasture. There are a great many plants of this species in the 30-acre pasture that grow in the nature of the larger sage brush, such as occurs around Ardmore; that is, green leaves grow out directly on the old stem.

Mandan, continued:

Arboriculture.

Owing to the weather conditions over most of the territory into which we ship trees, shipping was not begun until Thursday the 20th. This is five days later than last year, but is not as late as it has been some years. About 150 shipments have been sent to date to cooperators in South Dakota and North Dakota. Montana and Wyoming shipments will go forward next week.

Discing and harrowing of tree fields in preparation for planting was done early in the week. Two trial blocks of trees were planted in the Species testing section.

Precipitation .07 inch; maximum temperature 69, on the 21; minimum 15, on the 19th.

NORTH PLATTE:

No relief from the drought is yet in sight. Temperature variations during the week have been extreme, ranging from a minimum of 23 degrees on the 17 to 76 degrees on the 20th. There has also been a succession of high winds and calms, but the dry condition continues without variation.

Trees and shrubs are beginning to leaf out and the grain which has germinated is making a little growth. The wonder is that it is doing as well as it is, considering the extremely dry condition of the soil.

Visitors from the central station during the week have been H. O. Werner, Potato Specialist, F. E. Mussehl, Poultryman; and S. W. Alford, Animal Pathologist.

SHERIDAN:

Another light snow fell last Sunday, but the past few days have been quite favorable for drying up the fields and field work is now quite general.

A few fruit trees and bushes were planted Tuesday in the plat reserved for orchard plantings. Field work was begun on the 19th, when the ground was prepared for the April 15 Date of Seeding and the Rates of Seeding for spring wheat was seeded. A block of about 7.0 acres of summer fallow on the north side of the station was harrowed and seeded to Sixty Day oats for feed, on the 19th and 20th. Silvermine oats were seeded for increase on the remainder of the block seeded last fall to the Rates and Dates of winter wheat, about one acre.

An attempt was made to plow some of the plats on the Rotation field Thursday, but the ground was found to be too wet for work, and the field work was continued on the lighter land. Plowing of the Rotation plats was resumed again today. The land has been prepared for the spring grain varieties, and with continued good weather they will be seeded the first of the week.

The winter wheat seeded last fall is only just emerging now. The winter rye emerged about the first of the week. Some of the alfalfa is starting very slowly, while the most of it apparently has not started at all. The brome grass on the old seedings has made a good start, but last year's seeding probably will have to be reseeded. The Russian wheat grass, or Agropyron desertorum, seeded last year has started well and has made a better growth than either the brome or the native grass.

Maximum temperature 72, minimum 21; precipitation .12 inch.

TUCUMCARI:

Plowing of the south field was finished this date, making about 20 acres plowed this week. This 40-acre field will be cropped to cooperative plats and increase crops. Rain is badly needed, so the fields can be worked down in planting condition.

The adobe office building had cracked badly at one end, due to insufficient foundation, so 4 x 6 timbers 12 feet in length were set well in concrete, holes were bored through the timbers and walls and this date a 7/8 inch rod was run through the building and timbers and the burrs tightened sufficiently to prevent further spreading.

Considerable time was spent this week in raking the lawns, setting Russian olive seedlings in vacancies in the hedge, and watering hedges.

Many farmers have discontinued listing, as the ground is very dry. Only 2.98 inches of precipitation has been received in the past eight months; reports indicate that the wheat prospects on the plains to the south and east of here are very poor. Some wheat failed to germinate until the latter part of March, following the snow which added 1.10 inches of precipitation, and that which germinated is now suffering from lack of moisture.

The minimum temperature for the week was 30 degrees, leaves of some plants in the circle were nipped, but apparently no damage was done in the orchard. Peaches and Florence crabs are about through blooming, while a number of apple trees are now budded.

Maximum temperature 83; precipitation 0; evaporation 1.947 inches; average hourly wind velocity 6.0 miles per hour.

WOODWARD:

Practically all of the week has been clear with very little wind, with the exception of one day. Most of the time it has been rather warm although we had a slight frost on the morning of the 18th, but apparently noe of the fruit was hurt.

The Cereal Office first date of planting was put in on the 15th.

Work during the past week consisted of plowing orchard; plowing for variety cowpeas and peanuts; listing and discing for milo seed bed methods; discing the G plats in the CC series; spraying orchard, cultivating ornamental and nursery plantings; planting alfalfa and variety peanuts.

Mr. E. C. Chilcott visited the station on the 19th and 20th, and Mr. H. J. Clemmer, of the Dalhart station on the 22nd.

Weather for the week: Maximum temperature 82, on the 21st; minimum 32, on the 18th (morning;) precipitation 0; wind velocity 10.1 miles per hour.

1922

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

APR 29 1922

REPORT FOR WEEK ENDING APRIL 29, 1922.

AKRON:

Prolonged drought was effectively broken by rain of 3.38 inches which started falling as a drizzle on Monday and continued until Friday. Falling slowly, practically all the moisture was absorbed by the ground. There is not as much moisture standing in ponds and low places as sometimes after rains of much less volume.

Work has been confined to odd inside jobs about the station.

Winter wheat undoubtedly has been hurt by the prolonged dry spell here in this section, but to what extent will hardly be determinable until after the effects of this storm are noted. Undoubtedly some of the stands on the rotation plats will be very poor, if not negligible. Had rain of any consequence fallen a month earlier a different story would be in order. Some of the fruit trees in the orchard are practically in bloom and this section is yet approximately three weeks under its average frost date.

Maximum temperature 78, minimum 29; precipitation 3.38 inches.

ARCHER:

The first precipitation since July 4, 1921 of agricultural importance occurred during the past week. The total of 1.17 inches has been distributed over the whole week. During this time the humidity has been near the maximum and evaporation has been nil. This condition has stopped all field work. However the farmers and ranchers fell greatly favored and have high hopes of getting their crops in and started off in good shape.

Maximum temperature 71, minimum 28; precipitation 1.17 inches.

ARDMORE:

Rainy weather has prevented any field operations during the entire week. Precipitation was recorded four days during the week in amounts varying from .23 inch to .46 inch. The total precipitation for the week was 1.40 inches, and the total amount for April has been 3.21 inches. The 10-year normal for the same month at this station is 2.47 inches. All the rain which fell during the week was readily absorbed, due to the dry porous condition of the ground, and the soil moisture content is about normal for this season.

The temperature for the week was remarkably uniform, with the exception of the 29th when the maximum temperature was 60. From 8.00 a.m. the 26th to 8.00 a.m. the 28th the temperature range was only four degrees. The minimum temperature was 30 degrees.

All small grain crops are making a rapid growth. Winter wheat is the best in the history of the station for this time of the year. Native grass also is making a very fast growth, and will be available for pasture within two weeks.

COLBY:

The week just ending has been the wettest and cloudiest week of the season. Precipitation for the week was 2.28 inches which fell on five days, with the other two days credited with a trace of precipitation. This gave us one steady week without any sunshine except for a short period on each of two days. Field work was very limited, except that advantage was taken of the two days that the sun attempted to shine at the first of the week to edge off the ends of the plats. This work was done on all the plats but the roads were not worked to kill the small grains in the roads. It has been too wet for field work all week, and probably will be for the most of next week.

Colby, continued:

Winter wheat continues to grow and has a very good color. With the exception of Plats 501 and 257 the stand of wheat on the plats is good. Plat 501 has considerable of the wheat killed by the winter drought. Spring grains show an excellent stand. Weeds are starting nicely. Weather has been too cool for very rapid growth the past week.

Maximum temperature 64, on the 23d; minimum 31, on the night of the 28th; precipitation 2.28 inches.

DALHART:

Climatic conditions have been almost perfect the past week, making agricultural conditions secure for this time of the year. This month has had a record rainfall over any year since records have been taken for this county. The maximum for April, until this year was 5.15 inches, which was in 1915. This year a total of 5.20 inches has fallen in April to date, 3.31 inches of which has fallen since Saturday April 22. The week has been cloudy, with very little sunshine. The rains have occurred mostly in the evenings and nights in such quantities and proportions as to allow the soil to take most of it up. From present indications the rain is not over yet.

It has been so wet during the week that no field work could be done. Today, Saturday, some trees are being removed from the forest tree planting on the north side of the station. This is the Osage Orange planting. Every other row is being taken out in half the block, the remaining half will be left undisturbed. The thinned half will be trimmed and cultivated. This is being done with the sanction of the District Forester, in hopes that it might improve the condition of the planting. The plowing is completed for the first date of planting, but the plats are too wet for planting on May 1. These plats were plowed just before the rain began. During the bad days of the week seed cleaning and threshing were in order. Nearly all the selected seed is now finished, only a few of the varieties remain to be cleaned. As soon as the fields will permit, there is considerable work to be done, since conditions have opened so favorably. The teams will all be put in the field at the earliest possible date.

The stand of rye on a few plats is good, some are fair and some have a poor stand. They rye on the manured plat, following cowpeas in the rotation where manure is used on corn, has a much better showing than where it follows cowpeas on the unmanured rotation. The same is true with the rotation where Sudan is manured. Oats are growing rapidly now and the stand is good. Field conditions have opened considerably earlier this year than common due to the extra amount of rain received in April, especially during the week.

Maximum temperature 79, minimum 35; precipitation 3.31 inches.

DICKINSON:

Alfalfa, brome, peas, and sweet clover were seeded on the rotations and oats and barley varieties and an increase field of wheat. About two acres of crested wheat grass was seeded in rows for the increase of seed. All alfalfa, brome, and sweet clover was worked with the spring-tooth harrow. Plowing was started for corn.

The weather has continued cold and cloudy, and with a high wind on two days. On the 28th the wind averaged over 20 miles per hour for 12 hours. A good shower is needed with warmer weather as plant growth has barely started. Pastures will not amount to much for several days unless there is rain. April precipitation to date is 1.11 inches, while the average for the month is 1.21 inches.

Official visitors during the week were J.G. Diamond, Agricultural Statistician for North Dakota for the Bureau of Markets and Crop Estimates, and N.D. Gorman, Assistant County Agent Leader in North Dakota.

Maximum temperature 65, minimum 31; precipitation, trace.

HAVRE:

The week has been a little cool and cloudy, with several showers. Field work has consisted in preparing seed bed. The plats are all staked and ready for seeding as soon as the land is dry enough for drilling. Some of the fields that were seeded extra early in this vicinity are through the ground.

Mr. M. L. Wilson, of the Extension Service of the State College, Mr. Selby, of the Department of Farm Management, and Mr. Bowden, who is assisting in photographs, have been at the station several days during the last week. They are starting a survey of the most successful farmers in this part of the state. Pictures were taken of the different tillage implements in use on the station.

HAYS:

The weather has been cloudy and damp practically all the week, with only a little sunshine two afternoons. The temperature has ranged from 35 to 80 degrees.

The rainfall for the week is heavier than it has been for any one month since August 1920. It commenced raining Saturday night. Sunday morning, the 23rd, the rain gauge measured 2.10 inches and the following morning .86 inch. April 27, 1.02 inches were recorded and the following day .35 inch more, making a total for the week 4.33 inches. The total for the month is 4.97 inches or 2.71 inches above normal for April. Most of the water that fell during these rains was absorbed by the ground, so that but little was lost by run-off.

The ground has been too wet to permit of any ffield work during the week. Conditions have been very favorable for the growth of all spring grains.

On account of the wet weather and muddy roads the expected large attendance at the Tenth Annual Round-up at the Fort Hays Experiment Station did not materialize. However, in spite of the muddy roads 450 people were present and showed considerable interest in the program.

In connection with the Round-up a Boys' Stock Judging contest was held at the station. One hundred and fifty boys had been registered for the contest, but on account of the bad roads only 48 of the boys were able to get here. Both the Round-up and the judging contest were considered quite a success.

HUNTLEY:

Plowing and other field work has been in progress most of the week on the dry-land plats. Though the soil is still a little too wet fo work to the best advantage where the ground is heavy, good seed beds have been obtained on the lighter soils.

Alfalfa, brome grass, and winter grains have responded well to the continued warm weather. Light showers have kept the surface of the ground from crusting and seedling grasses, alfalfa and sweet clover, which did not come up last year are beginning to push through. All pastures and plats of perennial crops were harrowed to kill the young weeds which are more abundant this season than for several years.

Maximum temperature 79, minimum 31; precipitation .36 inch.

LAWTON:

Rainy weather has prevented field operations of any sort since the 22nd. Rainfall for the last eight days amounts to 3.33 inches and it continues at the present writing. Total precipitation for the month of April amounts to 6.35 inches which is 3.90 inches above normal for the month. Precipitation since January

1 is now 2.32 inches above normal for that period of time.

Upon the better types of soil throughout the county the present moisture conditions are indicative of fairly good row crops of all kinds if seasonable weather prevails during the remainder of the growing period. Upon the thin upland soils, where storage of moisture is limited, these wet periods require supplemental rainfall when the crops make their heaviest demands upon soil moisture. However, all farms are abundantly supplied with stock water, and native grass, as well as alfalfa, will make a very rapid and vigorous growth.

The first date of planting tests which were made on the 17th showed only fair stands by the 27th. The continued rains have prevented the plowing of plats to be fallowed this year. These plats are usually plowed about the last of April.

Station work for the past week has consisted of odd jobs of all sorts.

Maximum temperature 77, minimum temperature 47; wind velocity low.

MANDAN:

Agronomy.

The past week has been cool, dry, and windy. The soil has dried out in the surface and it is doubtful if some of the seed sown during the week will germinate before rain comes. Wheat and oats sown over a week ago are just sprouting. Under ordinary conditions they should be up. The germination has no doubt been slow because of the cold soil.

Alfalfa, sweet clover, peas, brome, and barley, were seeded in the rotations during the week. Flax will be seeded today. Flax will be sown in Rotations 41 and 42 in place of oats. Two varieties of field peas were sown for the Office of Forage Crop Investigations.

Germination tests of corn have been completed, and show most of the ears to be in good condition for seed.

Brome and wheat grass made a fair growth during the week, but alfalfa has made slow progress.

A severe wind storm occurred on the evening of April 22. It blew four barbed wires off about a quarter of a mile of fence around the horse pasture.

The Office of Cereal Investigations seeded their barley varieties during the week.

An additional piece of about seven acres has been broken in Field P; this will be used for feed production.

About 2½ acres of Victory oats were seeded in the South field. This is one of the varieties that has been doing well here, and it will be increased. It may later be sown in the rotations in place of the Sixty-day.

Land has been prepared for the varieties of alfalfa and sweet clover for the Office of Forage Crop Investigations. However, the seeding will be delayed until early in the week.

The Russian thistle which has caused considerable trouble this spring, has been practically cleaned up on the station. During the winter a large number of thistles blew off of Field P and accumulated along the east line of fence. These were practically all moved by the heavy wind of April 22, and were carried into the fence line that was torn down. The thistles were no doubt the direct cause for tearing the wires from the posts.

Maximum temperature 89, minimum 27; precipitation .04. The precipitation for the month todate is over an inch below normal.

Cooperative Grazing Experiment.

Native vegetation has made fair progress during the week. Some areas on the prairie are now practically green. The lack of precipitation during the month will no doubt reduce the native forage production for the season.

The wind of April 22 blew down two of the sheds at the pasture: One at the corrals was badly smashed up. It is now being rebuilt. The one in the rotation pasture was tipped over on its roof. It may be tipped back without much damage.

NORTH PLATTE:

Nature has been more favorable during the past week. The extremely dry condition which had extended over a period of many months was ended by a season of rain extending over several days and totaling 2.43 inches on the bench and 2.79 inches on the table. This came slowly and there was practically no run-off. It is as yet too early to tell what effect this will have on winter wheat which is badly killed out in spots. As it is now too late to seed to other grain, the winter wheat plats will be left to develop as best they can.

SHERIDAN:

The past week has been cool and exceptionally windy for this section. Field work has gone forward steadily. The varieties were seeded on the 24th. Preparation of the Rotation plats for seeding small grains was completed on the 27th. The barley, wheat, and peas for green manure were seeded yesterday and the oats are being seeded today. Sweet clover, alfalfa, and brome were seeded in the Rotations earlier in the week. It was necessary to reseed last year's seeding of brome.

The April 1 seeding of wheat emerged the first of the week. The stand on a number of the winter wheat plats, especially those on disced corn ground, is exceedingly thin.

Maximum temperature 69, minimum 23; precipitation .09 inch.

TUCUMCARI:

Rain on six days the past week, totalling 2.37 inches, prevented any field work. If weather conditions are favorable, it may be possible to plant the May 1 date plats Monday.

Hail which fell on the 24th and 27th damaged the fruit trees to some extent; the later varieties were not injured, while the early varieties of peaches and crabapples were hurt quite severely. Possibly from 30 to 50 per cent of the fruit buds and young fruit were killed on some trees.

Odd jobs, including oiling harness, resetting telephone poles, grinding feed, setting trees in vacancies, resetting some posts around the instrument yard, patching the office roof, trimming locust trees and cutting sprouts, and hauling brush, comprised the week's work.

Maximum temperature 83, minimum 39; precipitation 2.37 inches, evaporation 1.217 inches; average wind velocity 5.4 miles.

WOODWARD:

All of the past week has been cloudy and rainy with precipitation in varying amounts from .01 to .82 inch recorded on six different dates.

The rye on the rotations is beginning to head and the wheat on plats where it got started last fall, is making very rapid growth.

Practically no field work has been possible on account of wet weather. Some fencing has been done and some work on the roads on and about the station. A few shrubs which were through blooming were pruned.

Maximum temperature 83, minimum 40; precipitation 1.13 inches; evaporation .813; wind velocity 8.0 miles per hour.

BIG SPRING:

The weather this week has varied considerably from that which usually prevails in west Texas. On the night of April 22, 1.76 inches of rain fell, this came in such a manner that very little run-off occurred, so that the soil was left in excellent shape. On April 25 we had almost a cloudburst, when six inches of rain fell in six hours. It started to rain about noon on the 25th and when it finally cleared up the following morning; the gauge registered 7.41 inches. It was the heaviest rain ever recorded for this section of the country.

There are several places in the fields and plats where the soil is washed down to the bottom of the plow furrow. The first date of planting, which was just coming up, is buried beneath a layer of sand which was washed down upon it.

The rain caused so many washouts along the railroad that we have had no trains in or out of here since Tuesday, and it is reported that it will be four or five days yet before all the track can be repaired and train service renewed. Water was three inches deep in the depot for two days and many families living in the lower parts of town had to leave their homes for higher and dryer places.

We have been unable to do any field work this week, so the work has consisted mainly of repairing fences and fixing up our roads.

Maximum temperature 92, minimum 34; precipitation 9.17 inches.